

**SCHOOL OF PUBLIC HEALTH  
COLLEGE OF MEDICINE AND HEALTH SCIENCES  
UNIVERSITY OF GONDAR**

**PSYCHOSOCIAL CORRELATES OF EMOTIONAL RESPONSES TO  
MENARCHE AMONG HIGH SCHOOL ADOLESCENTS IN GONDAR  
TOWN, NORTHWEST ETHIOPIA, 2010/11**

**By: DANIEL BIRHANU**

**ADVISORS: TELAKE AZALE (MPH)**

**WALELEGN WORKU (MPH)**

**A THESIS SUBMITTED TO THE SCHOOL OF PUBLIC HEALTH,  
COLLEGE OF MEDICINE AND HEALTH SCIENCES, UNIVERSITY OF  
GONDAR, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR  
THE DEGREE OF MASTER OF PUBLIC HEALTH**

**SEPTEMBER, 2011  
GONDAR, ETHIOPIA**

**UNIVERSITY OF GONDAR**  
**COLLEGE OF MEDICINE AND HEALTH SCIENCES**  
**SCHOOL OF PUBLIC HEALTH**

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GONDAR TOWN, NORTHWEST ETHIOPIA, 2010/11**

**By: Daniel Birhanu**

**Tel: 0918046637**

**E-mail: [dbirhanu5@gmail.com](mailto:dbirhanu5@gmail.com)**

**Approved by the Examining Board:**

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\_\_\_\_\_

**Head, School of public Health**

**Advisors**

**1. Telake Azale(MPH)**

\_\_\_\_\_

**2. Walelegn Worku(MPH)**

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\_\_\_\_\_

\_\_\_\_\_

**Examiners**

## **ACKNOWLEDGEMENT**

First of all, I would like to express my heart felt appreciation and gratitude to my advisors Mr. Telake Azale (MPH) and Mr. Walelegn Worku (MPH) for their constructive advice and unreserved support. I very much appreciate their kindness and readiness to assist me.

I would like to express my deepest gratitude and special thanks to Mr. Tadesse Awoke (MSc. Statistics, MSc. Biostatistics), Dr. Desalegn Tigabu and Dr. Berihun Megabiayaw, to all instructors' and administrative staff in the school of public Health for their assistance and encouragement.

My deepest appreciation and heartfelt gratitude goes to Eshetie Belay, my family, friends and my class mates for you have been with me through out the course helping and encouraging.

Finally I would like to acknowledge the students, Directors and unit leaders of each School, Gondar town administration education office their kindly cooperation in providing the information required for the study.

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## **Abstract**

**Background:** Early adolescence is a time of physical, intellectual, emotional, and social development during which young people confront the questions. Here, physical maturation and particularly sexual maturation, has significant effects on self-concept and social relationships during this period is influenced by peer, parents and teacher. The usual age for menarche is between ages eleven and twelve. Studies and programs toward menstruation related problems are inadequate at all levels.

**Objective:** To assess emotional responses to menarche and associated psychosocial factors among adolescent high school girls Gondar town, Northwest Ethiopia 2010/11.

**Method:** It was a school based quantitative cross sectional study using self administered structured questionnaire. The sampling procedure starts by selecting three public schools, and then students were selected proportionally from grade 9 students by random sampling method. The total sample size was 379.

**Result:** Participants' mean age at menarche was 14.46 years. Their emotional reactions to menarche were largely negative, with 53.8% and 55.5% reporting feeling embarrassed and worried, respectively. In spite of these negative feelings, less than half of the participants 47.8% reported feeling grown up and 49.5% becoming happy towards their menarche. Results of the hierarchical multiple regression analyses showed that negative emotional responses to menarche were correlated with perceptions of menstruation as a negative event, inadequate preparation for menarche, negative menstrual attitudes (11.3% variance explained). Positive emotional responses to menarche were correlated with perceptions of menstruation as a natural event, rejection of negative menstrual attitudes, and adequate preparation for menarche (11% variance explained).

**Conclusion:** This study illustrates that the emotional response of Gondar adolescent high school girls' is negative. This study also shows that menstrual attitudes and preparedness are significant correlates of their emotional response to menarche.

**Recommendation:** Schools be supposed to provide the class sessions based on Family Life Education and menstruation related topics incorporated in the existing subjects, girls and boys need to have a better, well organized health education class delivered by trained health education instructors.



## **1. Introduction**

### **1.1 statement of the problem**

Early adolescence is a time of physical, intellectual, emotional, and social development during which young people confront the questions. Here, physical maturation and particularly sexual maturation, has significant effects on self-concept and social relationships during this period. This period is influenced by peer, parents and teacher (1,2,3).

When a healthy child is somewhere between 9 and 16 years old, he or she will enter puberty. During puberty, hormonal, psychological, cognitive and physical changes occur simultaneously and interactively making physiological development a challenge adolescents have to face, with emotional, social and behavioral dimensions. The onset of menstruation is one of the most visible signs that a girl is entering puberty (4,5).

Psychosocial theories are buoyed by empirical evidence that social context is a critical determinant of resilience versus vulnerability for early developers. Although all girls are sensitive to societal responses to their development, social contexts vary in their reactions to and treatment of early maturation. Girls who matured on time according to population standards nevertheless defined themselves as early developers and were more likely to display negative consequences. In some cultures, such as the Kipsigis of Kenya, early menarche is considered socially advantageous (6,7).

There are different misconceptions and misunderstanding of the menstruation because of the deep rooted culturally and religiously influenced established and accepted perceived facts related to menstruation. The subject is strangely and intriguingly a taboo (8). In several African societies menstruating women make known their unavailability for the bed in Malawi or going to bed fully clothed in Nigeria (9).

There is a lack of studies on menarche in Ethiopian societies, as menstrual- related matters have remained taboo topics until very recently. This may be because menstrual experiences have been a “secret” topic in most Ethiopian societies.

The present study aims to fill the above knowledge gaps by examining expectations of menarche and their influencing factors among Ethiopian menarcheal adolescent girls in Gondar.

## 1.2 Literature review

### i. Menarche

The word *menarche* is derived from the Greek words *me-n*, month, and *arche*-, beginning. It is the term used to refer to the first menstrual period. This first sign that menstruation has begun is governed by a complex set of biological processes, genetic information and psychosocial maturation. From both social and medical perspectives it is often considered the central event of female puberty as it signals the possibility of fertility. Timing of menarche is influenced by both genetic and environmental factors, critical weight, height/weight ratio, skeletal maturation, and percentage of body fat (10).

The mean age at menarche varies from population to population and is known to be a sensitive indicator of various characteristics of population including nutritional status, geographical location, environmental conditions and magnitude of socioeconomic inequalities in a society (2,11). Studies suggested that menarche tends to appear earlier in life as the sanitary, nutritional and economic conditions of a society improve (5).

The usual age for menarche is between ages eleven and twelve. Other studies, however, report figures between twelve and thirteen. Girls, in the United States reach menarche much earlier on average at 12.2 years for African Americans and 12.8 years for Whites (11,12).

In developing countries may experience first menses at an average of 15 or 16 years of age, the mean age of menarche in Iranian study on one generation in daughters and their mothers were  $13.2 \pm 1.4$  and  $13.6 \pm 1.5$  years, respectively. In India the age of menstruating girls ranged from 12-17 yrs with maximum number of girls between 13-15 yrs of age. A study done in Nigeria mean age at menarche was 13.3 years; in North Gondar zone (Dabat & kola diba) and Addis Ababa the median age at menarche was 14.8 (13.9-15.3) and  $13.72 \pm 1.31$  years respectively (13, 14,15,16,17).

Menarche is celebrated in many cultures around the world as a rite of passage, a time to recognize that a girl is moving into womanhood. There were few systematic studies in 53 women from 34 different countries participated in a focus group discussion about

their menarche experiences, and they were asked to share the patterns of formal recognition of menarche in their cultures. Although most women did not report any celebrations or rituals for girls who start to menstruate, some cultures in past centuries have had rites of passage for a girl experiencing menarche. In a Japanese girl her first period, the family celebrates by eating red-colored rice and beans. In rural India, a girl who has reached puberty is given a ceremonial bath, decked with ornate jewels and garments, and the girl's kith and kin are all invited for a ceremony, in which it is announced that the girl has come of age and that celebrations follow. Women from the Republic of Benin and Cameroon reported that with menarche, girls get towels, perfume, and undergarments as a kind of preparation. In Zambia, girls also get new pajamas, dresses, and towels and are kept home until their first period is over; they are not supposed to do any work and are treated like queens (18,19).

## **ii. Psychosocial influencing factors**

There is an accumulation of research regarding factors affecting women's experiences of menstruation. However, relatively few studies have examined the associations between various psychosocial factors and expectations of menarche. The following review will examine how menstrual attitudes and preparedness for menarche influence women's expectations of their first menstruation.

Mexican women's depressive symptomatology also increases from pre menarcheal to post menarcheal, with those holding more negative menstrual attitudes reporting a higher level of depression (20). These findings indicate the significance of menstrual attitudes in affecting women's experiences of menarche and menstruation. Although people across cultures have become relatively frank and open in their attitudes toward various sexual matters, some are still uncomfortable talking about menstruation and regard it as taboo (21).

Western and some Asian studies have shown that people's attitudes toward menstruation are generally negative and often associate menstruation with physical discomfort, increased emotionality, and a disruption of activities and social interactions (6, 21,22, 23,24).

Menstrual myths and indigenous practices are still common in some countries. For example, a menstruating Indian woman is considered as impure or unholy and is not allowed to engage in any religious or social activities (23). Bangladesh girls need to withdraw from school at the time of menstruation (25). Both American men and women believe women should avoid sexual contact with others when menstruating (26). Indigenous menstrual practices are also evident in Chinese societies. For instance, some Chinese in Hong Kong still think that menstruation brings bad luck, that women should not wash their hair and eat raw or cold food during menstruation, and that it is easier to get sick during or after menstruation (27). These menstrual-related misconceptions and stigma often bring about shame, guilt, and feelings of being unclean in relation to menstruation and, as a result, may lead to teenage girls' negative expectations of menarche.

Exposure to premenstrual symptoms and negative messages about menstruation in family members during adolescence are also found to relate to perceptions of menstruation as being bothersome and debilitating (28).

A study done in China and Iran their emotional reactions to menarche were largely negative, with almost 85% and 91.6% reporting feeling annoyed and embarrassed, worry and shame respectively. In spite of these negative feelings, about two-thirds of the participants also reported feeling grown up and another 40% felt as if becoming more feminine. Positive emotional responses to menarche in Iranian girl was 25.9%; these also correlated with perceptions of menstruation as a natural event, rejection of indigenous negative menstrual attitudes, positive body image, and adequate preparation for menarche (29,30).

Another study done in China by comparing experiences of post menarcheal girls and pre menarcheal girl's results showed that pre- and post menarcheal girls did not differ in their positive emotions to menarche. Pre menarcheal girls anticipated more negative emotional responses and pre menarcheal girls also anticipated more severe menstrual symptoms than post menarcheal girls actually experienced (31).

A study done in Indian by 168 girls their emotional reaction was Scared 77(44.8), Indifferent 45 (26.8), Discomfort 24(14.3), Disgusted 8 (4.8), Guilty 21 (12.5) and Other 14(8.3); mother was the main source of information about menstruation (27.5%), while it

was teacher in the rural counterparts (27.01%). Other sources of information were friends, relative and books (17).

Furthermore, teenage girls often obtain information about menstruation from their mother, school, friends, and advertisements of sanitary products (32,22). However, these sources of information tend to emphasize physiological and practical aspects of the menstrual cycle and introduce menstruation as a hygiene crisis that should be hidden from others. Little is dealt with women's emotional needs and anxieties about menarche and menstruation (33).

A study done in Iran 59.2% girls received information from their mothers 15.98% from girlfriends, 8.3% from sisters, 12.6% health teachers classes and 1.6% health care providers and magazine 85.2% of girls believed that menarche is evidence of health, but in 91.6% girl's menarche was associated with worry and shame. Negative psychological attitude about menstruation was seen in 59.8 % (30).

A study done in Nigeria 53% received information from their mothers, 22.4% from girlfriends, 11.5% from sisters, 11.6% Health teachers classes and 1.2% healthcare providers and magazine were cited. No respondent received information on menstruation from television and radio, only 0.8% of girls from fathers, and 0.4% from brothers (16).

In Addis Ababa samples had shown that the dominant sources of information and advice on menstruation and how to deal with were teachers, mothers, elder sisters, health personnel and friends 37%, 35%, 32% and 32% from their brother and father 5% only. Almost all girls hadn't expected their menstruation when it happened for the first time (14).

This emphasis on privacy conveys the idea that menarche and menstruation are negative and embarrassing events. Consequently, premenarcheal teenage girls may regard these two events as taboo topics inappropriate for public discourse. This will further impede their seeking of information to prepare for their menarche.

## **1.1 Justification**

Teenager's girls reach menarche while they are still at primary and secondary schools. Addressing the issue of menarche, and awareness on how to deal with menstrual problems can be useful starting point for linking them with adolescent programs providing sexual and reproductive health information and education as well as clinical management.

There is a Lack of proper menstrual related awareness program. Due to its indirect effects on school absenteeism and poor school performance may seriously hamper the realization of Millennium Development Goal-2 on universal education and Millennium Development Goal -3 on gender equality and women empowerment.

As far as my knowledge there is no research conducted in the study area on adolescent girls their psychosocial and emotional response anticipates their first onset of menstruation. Moreover studies and programs toward menstruation related problems are inadequate at all levels.

## **2. Objective of the study**

### **2.1 General objective**

- To assess emotional responses and associated psychosocial factors of high school adolescent to menarche in Gondar town, Northwest Ethiopia 2010/11.

### **2.2 Specific objective**

- To determine emotional responses of adolescent girls towards menarche.
- To identify psychosocial factors associated with emotional responses of adolescent girls.

### **3. Methods**

#### **3.1 Study Design:**

A school based cross sectional study.

#### **3.2 Study period:**

The study period was from February to June 2011.

#### **3.3 Study Area:**

The study was conducted in Gondar town on randomly selected secondary schools. The Population of Gondar from Central Statistics Agency is 206,987 (34).

Gondar is a town in Ethiopia, which was once the old imperial capital and capital of the historic Begemder Province. Located in the north Gondar Zone of the Amhara Region which is located around 747Km from Addis Ababa 243 Km from Bahir Dar.

According to the current education policy schools are divided in to primary (grades1-8) and high school- 1st cycle (grades 9-10), and 2nd cycle Technical and vocational education training and preparatory (11-12). During the 2010/11 academic year there were 11,953 students in secondary schools. There are 11 high schools with grade 9, more than half of these, i.e. 6 are public and 5 are private owned, enrolling about 3641 and 410 students (girls), respectively (36).

#### **3.4 Source and study Population:**

All female grade 9 students in Gondar town enrolled during the academic year 2010/11. The study population was all female regular students from selected classes of selected high schools enrolled in the academic year 2010/11.

Inclusion criteria

- Those regular students who attend the class during data collection.

Exclusion criteria

- Those who were blind can not write with pen and pencil.

#### **3.5 Sample size and sampling procedure**

Sample size was calculated using single population proportion formula with a source population.

Assumption for calculating the sample size:

- Confidence level = 95%
- 5% degree of precision



- There is study for estimation of proportion on the negative emotional reaction during menstruation in Ethiopia; it was 54% (14).

$$n = (Z_{1/2})^2 pq/w^2$$

$$n = (1.96)^2(0.54)(0.46)/(0.05)^2$$

$$n = 381$$

The total number of grade 9 female students in the public high schools was 3641, so since this figure was below 10,000 we use the following adjustment for the sample size:

$$n = n_o / (1 + n_o / N)$$

Where,

$n_o$  = sample size for population of size above 10,000

$N$  = number of female students in the high schools

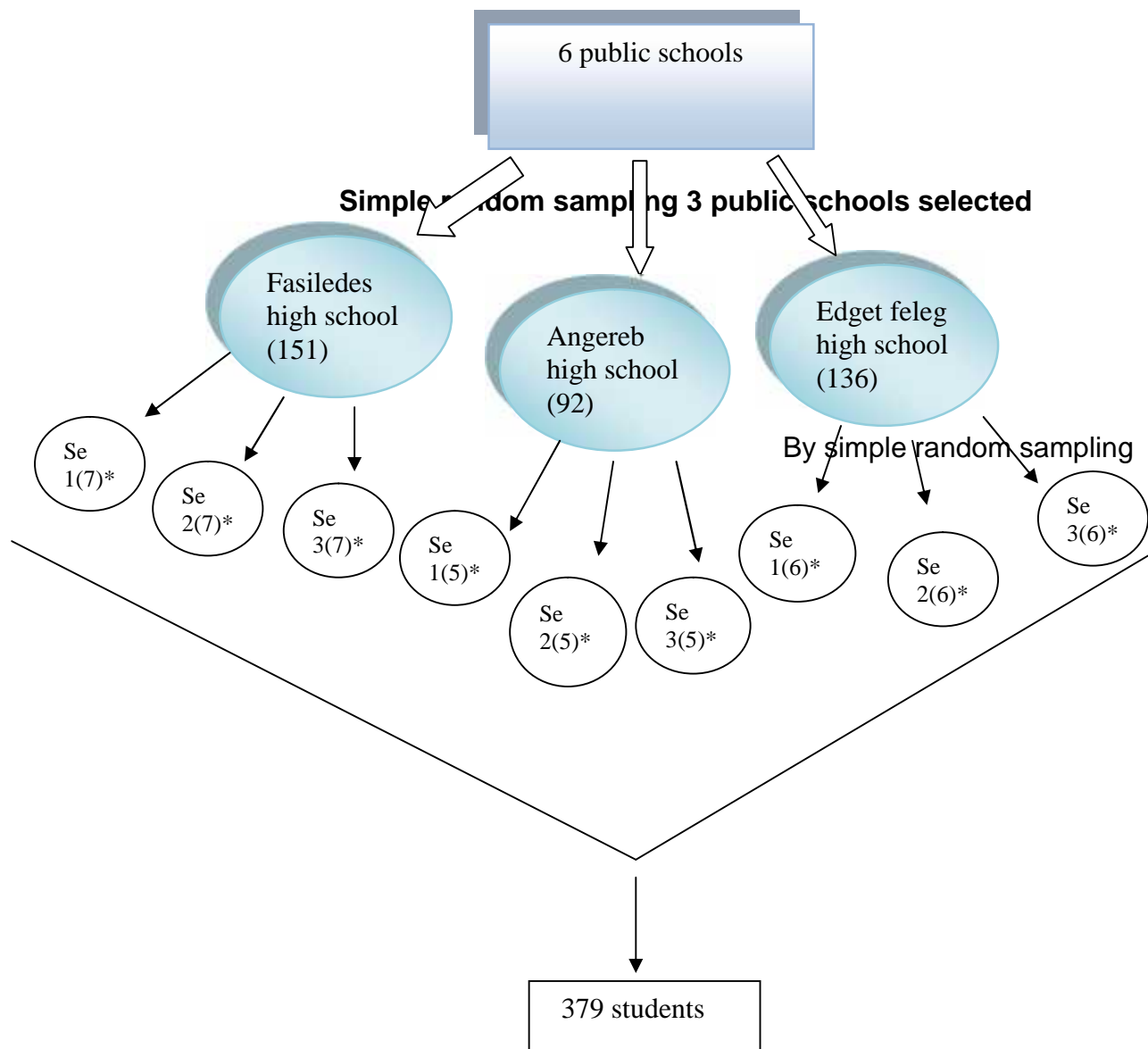
Therefore,

$$n = 381 / (1 + 381/3641)$$

$$n = 344$$

With the 10% non- response rate, the final sample size became 379.

Three schools from public were selected by randomly then students were selected proportionally from grade 9 student sections by random sampling method. Individual students from each class were selected by using simple random sampling technique. Once inside the classroom, starting from the front right hand seat of the class, a random number was picked and the required number of students was randomly selected.



**Figure 1: Schematic representation of the sampling procedure**

**\*from each school Fasiledes, Angereb and ediget feleg they have 24, 18 and 24 section from these 7, 5 and 6 students selected randomly by starting from the right side of class respectively.**

### **3.6 Variables of the study**

#### **Dependent variables:**

- ❖ Emotional response to menarche (positive and negative)

#### **Independent variables:**

- ❖ Demographic variables(age, age at menarche, occupation, monthly income, and educational level of parents)
- ❖ Menstrual attitude questionnaire (Insomnia, Crying, Lowered school performance, Muscle stiffness, Forgetfulness, Confusion....)
- ❖ preparedness for menarche

### **3.7 Operational Definitions**

- Preparedness for menarche - is the readiness of a girl before menarche with knowledge and attitude that menstruation is a normal process and should not be ashamed or afraid of.
- Menstrual attitude questionnaire- In order to examine the relationship of attitudes about menstruation to self-report of menstrual-related symptomatology as well as to other aspects of behavior, an instrument to measure attitudes concerning menstruation was developed.
- Psychosocial factor- the effects of various social environments on the individual changes in thought and behavior through the course of life.
- Emotional response – a positive and/or negative reaction to a particular intrapsychic feeling or feelings, accompanied by physiologic changes that may or may not be outwardly manifested but that motivate or precipitate some action or behavioral response.
- Emotional experiences of menarche- this is 12-item scales that assesses the post-menarcheal girls' emotional experiences of menarche, and is grouped into either positive or negative emotional experiences. Positive emotional experiences include items such as "proud," "excited," "happy," and "more grown up;" while negative emotional experiences include items such as "embarrassed," "uncomfortable," "angry," "scared," "surprised," "sick," "worried" and "confused". Participants were asked whether or not they experienced the depicted responses at their first menstruation on four-point scales. For the present study, the sum of

four point scales score must be greater than 75% of the questions for positive and negative emotional responses.

### **3.8 Data Collection procedure:**

Data was collected by self administered questionnaire. The questionnaire was first prepared in English and translated to Amharic and back to English. Before the start of data collection the questionnaire were pre-tested on 40 students, selected randomly from 9<sup>th</sup> grades at non selected Secondary Schools in Azezo high school. Six trained female 12<sup>th</sup> grade complete facilitators were involved during the data collection. Two supervisors were selected, mainly composed of female nurses. Data collection conducted on May 20, 2011. Some modifications concerning clarification of the content and simplification of the wording was considered after the pre-testing of the questionnaire. The survey was conducted in one day and the same time. Survey completion requires duration of thirty minutes. When finished, students were put their completed questionnaire in the prepared cartoon box. The principal investigator made the overall supervision and coordination of the data collection.

### **3.9 Data Quality control:**

The questionnaire was originally developed in English, and then translated to Amharic language, and back translate to English by another individual. The data facilitator and supervisors got the necessary training. The questionnaires were checked for its consistency and completeness, as well as, pretesting for relevant correction, after which relevant changes and modifications were made with the input from the pretesting. The principal investigator was following the whole data collection process. Data was edited and cleared before analysis.

### **3.10 Data Analysis procedure:**

Questionnaires were coded after cleaning was done so that all the variables in the questionnaire could be followed by end coding. This was pre-test by entering 50 questionnaires. After this validation data was enter the data using EPI Info version3.5.1 and transfer to SPSS version- 16 statistical soft ware package for data analysis, for testing association and other statistical computations. Mainly descriptive statistics were used in the analysis; Percentages, means, medians, standard deviations and ranges were used to describe findings. Additionally tables were used to assist data

presentation. Pearson correlation and hierarchical multiple regression analysis were used for measuring strength of association.

### **3.11 Ethical Considerations**

Ethical clearance was obtained from Ethical Review Board of the University of Gondar. Then, an official at different levels in Gondar town was communicating through formal letters from the University of Gondar, School of Public Health. The schools willingness to participate in the study was discussed with officials of all the schools. A letter with introduction of the study, method of data collection and confidentiality were attached to the cover page of the questionnaire. Verbal and written consent was obtained from the participants to participate in the study. All the reasons why students are chosen and why the research is to be done were explained in the questionnaire to the study subjects. Additionally confidentiality of all the data to be gained would be seriously respected.

#### 4. Results

##### 1. Socio-demographic background

Around 3.4% of girls aged 14 to 16 years had missing and incomplete information for age at menarche and other information. Therefore, the total number of girls analyzed in this study was 366. The (mean  $\pm$  SD) age of the girls was  $15.62 \pm 0.539$  years, ranging from 14-16 years. All the girls were unmarried (Table 1).

The majority 332(90.7%) of girls were orthodox while 22(6.0%) Muslim and 12(3.3%) were catholic and protestant. A significant number 289 (79%) of the girls were Amhara and a smaller number 40 (10.9%) and 37(10.1%) were kimant and Tigre in ethnicity respectively (Table 1).

Table 1 Socio-demographic characteristics of girl students enrolled in high schools Gondar town, Northwest Ethiopia, August, 2010/11.

Variable	Frequency	percent
<b>Age of study subjects</b>		
14	9	2.5
15	119	32.5
16	238	65
<b>Father's educational level</b>		
Can-not read and write	63	17.2
Read and write only	78	21.3
1-6 grade	74	20.2
7-12 grade	69	18.9
12+ grade	82	22.4
<b>Mother's educational level</b>		
Can-not read and write	76	20.8
Read and write only	61	16.7
1-6 grade	90	24.6
7-12 grade	93	25.4
12+ grade	46	12.6
<b>Ethnicity</b>		
Amhara	289	79
Tigre	37	10.1
Kimant	40	10.9
<b>Religion</b>		
Orthodox	332	90.7
Muslim	22	6.0
Protestant	10	2.7
Catholic	2	0.6

Most of the study subjects' fathers' were literate 303 (82.8%) while 63 (17.2%) were found illiterate. Among mothers' 76(20.8%) were illiterate, while 290 (79.2%) were literate. By occupation majority of girls mother 207(56.6%) were found to be housewives, while 83(22.7%) of fathers were farmers. Merchants and drivers accounted for 26.8% and 5.5% respectively (Table 1).

## **2. Emotional response to menarche**

Participants' age at menarche ranged from 11 to 16 years, with the mean age being  $14.46 \pm 0.969$  years. The detailed breakdown of the age of menarche was as follows: less than 1% at age 11, 14.4 % 12 years to 13 years, 31.4% at age of 14 years, 42.3%, 11.2% at age of 15 and 16 years, respectively.

Participants' emotional responses of menarche were first examined. The percentages of participants who indicated a little bit, somewhat, or very strong to each depicted emotional response were calculated and summarized in Table 2. Regarding negative emotional response 200(54.6%), slightly more than half of the participants respond to feel embarrassed 197 (53.8%) and uncomfortable 189 (51.6%) at the time of menarche. Most of the participants also feel scared 225(61.5%), worried 203(55.5%), surprised 204(55.7%), and confused 189 (51.6%). For positive emotional responses, slightly less than half of the participants feel more grown up 175(47.8%). Only 181 of the participants respond to feel happy (49.5%), proud 162(44.3%) toward their menarche. In terms of preparation for menarche, only 58(15.8%) well prepared, 71(19.4%) were not prepared enough, 189 (51.6%) reported being completely unprepared, and 46(12.6%) they do not remember. Furthermore, most participants 171(46.7%) would like to tell their mother about their menarche, and 41(11.2%) reported that they would not tell anybody. Four (1.1%) participants would like to tell the onset of menarche to her father and brother.

Majority of the girls 311(85%) knew about menstruation before they had menarche. Two hundred eighty nine (78.9%) of them had at least one person who had told/advise them about menstruation. The commonest source of information on menstruation (prior to menarche) amongst respondents was from the mother, 58.1% (214), followed by elder sister, teacher and friends –36.1% (132), 11.5% (42) and 9.8%(36) respectively, while the father constituted the least source, 2.7%(10).

Table 2 Emotional response and preparation of menarche for students enrol in high schools Gondar Town, Northwest Ethiopia, August, 2010/11

Variable	Frequency	Percent
<b>Positive emotional response*</b>		
Happy	181	49.5
Proud	162	44.3
Excited	142	38.8
More grown up	175	47.8
<b>Negative emotional response*</b>		
Embarrassed	197	53.8
Angry	177	48.4
Scared	225	61.5
Uncomfortable	189	51.6
Surprised	204	55.7
Sick	198	54.1
Worried	203	55.5
Not knowing what to do	189	51.6
<b>Age at menarche</b>		
11	2	0.5
12	10	2.7
13	43	11.7
14	115	31.4
15	155	42.3
16	41	11.2
<b>Girls' feeling of their preparedness at menarche</b>		
Not at all	189	51.6
Not well prepared	71	19.4
Prepared well	58	15.8
Don't remember	46	12.6
<b>Preferred source of information</b>		
Mother	214	58.5
Father/Brother	15	4.1
Sister	132	36.1
Friends	36	9.8
Other family member	3	0.8
Health personnel	102	27.9
Teacher	42	11.5
Books/magazine	45	12.3
<b>First person to tell</b>		
Mother	171	46.7
Father/brother	4	1.1
Sister	103	28.1
Friends	40	10.9
Not tell other body	41	11.2
Other family member	4	1.1

\*The percentage did not add up to 100 because of multiple responses.



### 3. Psychosocial Correlates of Emotional Responses to Menarche

Descriptive statistics of various measurement scales were summarized in Table 2. Pearson correlations were computed to determine the associations among age at menarche, preparedness for menarche, general menstrual attitudes like perception as positive and negative, and emotional responses to menarche. In general, the pattern of associations among these variables was in the expected directions, and their results were also presented in Table 3.

A positive relationship was found between the positive emotional experiences of menarche with preparedness, and perception as a natural event and but had negatively correlates with negative event ( $r=.873$ ,  $r=.326$ ,  $r=-.326$   $p < 0.01$ ) respectively. But in negative emotional experience had negative relation with preparedness and perception as a positive event but positively correlates with perception as a negative event ( $r=-.879$ ,  $r=-.323$ ,  $r=.323$   $p < 0.01$ ).

However, the age at menarche and the present study were unrelated to various variables like preparedness, perception as a natural event and negative and also positive and negative experience to menarche (Table 3).

Table 3. Correlation analysis Results and Descriptive statistics of Major Variables for students enrol in high schools Gondar Town, Northwest Ethiopia, August, 2010/11

	1	2	3	4	5	6
<b>Demographics</b>						
Age at menarche	-					
<b>Menstrual attitude</b>						
Natural event	.015	-				
Negative event	-.015	-1.00**	-			
Preparedness	.033	.402**	-.402**	-		
<b>Menarche experience</b>						
Positive	.007	.326**	-.326**	.873**	-	
Negative	-.020	-.323**	.323**	-.879**	-.911**	-
<b>Mean</b>	14.46					
<b>SD</b>	.969					
<b>Range</b>	11-16	1-5	1-5	1-4	1-4	1-4

\*\* Correlation is significant at the 0.01 level (2-tailed)

Hierarchical multiple regression analyses were conducted to examine the respective contribution of various psychosocial factors in the prediction of positive and negative emotional response of menarche, taking the common variances of the psychosocial factors into consideration. It was decided a priori that demographic variables should be entered first to control for the effects of individual background characteristics, then menstruation related attitudes were entered last as they were hypothesized to have the most salient influences on responses, even after the effects of demographic characteristics were taking into consideration.

For subsequent analyses, demographic variables, such as age at menarche, educational level of mother and father were entered as Block 1. Menstruation-related variables were entered as Block 2 and included preparedness for menarche and two menstrual attitudes, namely menstruation as a natural event, menstruation as a negative event. Results of the final models of these regressions multiple analyses were summarized in Table 4.

For positive emotional responses to menarche, the above two blocks of predictor variables explained about 11% of the variance. Results showed that participants' age at menarche, educational level of mother and father were insignificant predictors with beta values of  $\beta = -.035$  CI (-.419, .349),  $\beta = .031$  CI (-.780, .843),  $\beta = -.440$  CI (-1.252, .372) respectively. The second block of menstrual-attitudes variables remained a significant predictor even after the effects of demographic variables were controlled, accounting for an additional 10.4% of the variance ( $R^2 = .110$ ,  $F$  change = 14.045,  $p < .001$ ). The beta values of the final model of the regression analyses indicated that participants' positive emotional response of menarche were best predicted by perceptions of menstruation as a natural event, by rejection of menstruation as a negative event and best explained by preparation of menarche ( $\beta = .581$ , (with CI 381, 1.544)  $\beta = -2.043$ , (with CI -2.966, 1.121)  $\beta = .222$  with CI (1.046, 1.051) respectively).

For negative emotional response of menarche, the two blocks of predictor variables explained about 11.3% of the variance. Demographic characteristics like age at menarche, educational level of father and mother ( $R^2 = .008$ ,  $F$  change = .927) were insignificant predictors with beta values of  $\beta = -.035$  CI (-.633, .594),  $\beta = .069$  CI (-1.228, 1.366),  $\beta = -.883$  CI (-.415, 2.181) respectively. The second block of menstrual-attitudes

variables was significant even after controlling for the effects of demographics, accounting for an additional 10.3% of the variance ( $R^2 = .111$   $F$  change = 13.892,  $p < .001$ ). The beta values of the final model of the regression analyses showed that negative emotional response of menarche were best predicted by perceptions of menstruation as a negative event, preparation for menarche, menstruation as a positive event with a beta value of  $\beta = 3.626$ , CI (2.151, 5.101)  $\beta = -.032$  CI (-1.644, 1.707),  $\beta = -.365$  CI (-1.903, 1.173) respectively.

Table 4 Results of Final models of hierarchical multiple Regression analysis for students enrol in high schools Gondar Town, Northwest Ethiopia, August, 2010/11

	Beta value	R <sup>2</sup>	Change R <sup>2</sup>	F Change	CI
<b>Positive</b> Emotional response to menarche					
Block 1: demographics		<b>.008</b>	<b>.008</b>	<b>.927</b>	
Age at menarche	-.035				(-.419, .349)
Educational level of Father	-.440				(-.780, .843)
Educational level of Mother	.031				(-1.252, .372)
Block 2: Menstrual attitudes		.111	.103	13.892**	
Preparedness for menarche	.222**				(1.046, 1.051)
Menstruation as a natural event	.581**				(.381, 1.544)
Menstruation as a negative event	-2.043				(-2.966, 1.121)
<b>Negative</b> Emotional response to menarche					
Block 1: demographic		.006	.006	.704	
Age at menarche	-.019				(-.633, .594),
Educational level of Father	.069				(-.415, 2.181)
Educational level of Mother	.883				(-1.228, 1.366)
Block 2: Menstrual attitudes		<b>.110</b>	<b>.104</b>	<b>14.045**</b>	
Preparedness for menarche	-.032				(-1.644, 1.707)
Menstruation as a natural event	-.365				(-1.903, 1.173)
Menstruation as a negative event	3.626**				(2.151, 5.101)

\*P <.05    \*\*P <.001

## 5. DISCUSSION

The study has estimated age at menarche in the current high school adolescent girls. The age at menarche in this study was  $14.46 \pm 0.969$  years with median age of 15 years. When it is compared to United States the result is higher by more than one year, in the United States girls reach menarche much earlier on average at 12.2 years for African Americans and 12.8 years for Whites, In general age at menarche in the Western nations has dropped to an average of about 12.6 years (11,12). The reason for this difference may be related to improvement of nutritional and socioeconomic status of the adolescent high school girls.

Compared to developing Asian and some Africa countries the result of this study can be approximated. A study from China showed relatively lower, 11.67(SD .93). Studies from India showed that a lower result; range from 12-17 with maximum number of girls between 13-15 yrs of age. A study from Khartoum showed the mean age to be 13.85 years, a Nigerian study that is relatively recent one showed the median age was 13.3 years. In Addis Ababa and North Gondar (Dabat & Kola Diba) mean age were 14.8 and 13.72 years respectively. Reason for this gap is Countries are experiencing rapid modernization (13,14,15,16,17,37).

In this study many high school girls had a negative emotional response and many had been embarrassed (53.8%), uncomfortable (51.6%), scared (61.5%), worried (55.5%), sick (54.1%) and surprised (55.7%) by their first menstrual periods. This study is supported by other studies conducted in various parts of the world; in china it has been shown that a high number of high school girls perceive menarche as an embarrassing (84.9%), uncomfortable (85.8%), confused (71.5%), scared (72.0%), surprised (78.1%) and sick (33.9%). This high result might be a reflection of deep rooted socio-cultural myth, taboos and prejudices about menstruation in society and age. Another study conducted in India the reaction to first menstruation were scare (44.8%), uncomfortable (14.3%), embarrassed (26.8%) and guilt (12.5%) and other reactions (8.3%) like surprise, worried, fear. This some similarity and difference may be due some similarity about cultural related to menstruation in Ethiopia and Indian society (29,17). Boys also, because of poor knowledge of menstrual process, often use it as a means to ridicule

and embarrass girls. This directly or indirectly can and possibly robs the girls' confidence to stay cool in classes (25).

In these studies, reported that nearly half of the high school girls perceived menarche as a positive like proud (44.3%), happy (49.5%) and more grown up (47.8%) and as a natural event. It is also stated in others literature that there were high school girls who perceived having positive feeling. This study result is different when we compared to China high school girls reported that more grown up (74.0%) as well as happy (23.1%) and proud (14.4%) (29). This difference might be due to many of girls discussed with their mother (58.5%) this will help to develop positive response and also in china girls also have inadequate information and knowledge about menstruation (29).

The present study shows that psychosocial factors are significant correlates of Gondar town high school post menarcheal adolescents on emotional experience of menarche. In particular, results of hierarchical regression analyses indicated that menstrual attitudes were the most leading predictor of these girls' emotional responses of menarche. This is also consistent with a study done by Chinese pre menarcheal and post menarcheal teenager (29,31).

The present results show that adequate preparation for menarche also significantly predicts positive emotional response of menarche in high school girls. This is consistent with previous studies on samples that find that, as compared to those with good preparation for their menarche (29).

About 60% of girls felt that they were not prepared during menarche, consistent with research done in Addis Ababa (14). As others have observed, in this study too girls had access to a variety of sources of information, but tended to rely most heavily on their mothers (58.5%), sister (36.1%) and teacher (11.5%) whom they perceived as helpful, and their female friends (9.8%). However, the information they obtained either hadn't been sufficient or it didn't address the psychosocial component which is often not mentioned both by teachers and mothers (14).

Of the 366 respondents who claimed to have discussed their associated with menstruation, the most common person with whom this was done was the mother who accounted for 46.7% (171). Similar observation was reported that mothers constituted the source of information on menstruation issues 47.1%, in other study also other

reports in which the mother was the most common source of information on menstruation generally (38). Unfortunately information on menstruation given by mothers are often incomplete and incorrect, usually being based on cultural myths, and therefore probably constitutes a major factor towards the negative and distorted perception and practice of menstruation (35).

## **6. LIMITATIONS**

Firstly, results of the present findings are based on the self reports of adolescent girls without external verification, and thus may be subject to recall bias, as there was time lapsed between the actual onset of menarche and the present study.

Secondly, the non random nature of the sample also limits the generalization of findings. This study only includes high school adolescent girls attending high schools, and excludes those who are out of school. It is possible that adolescent girls with different background may have different reactions to menarche.

## **7. Conclusion**

The age at menarche of the Gondar high school girls showed this fact partially.

This study illustrates that the emotional response of Gondar high school adolescent during menarche is negative.

This study also shows that menstrual attitudes and preparedness are significant to emotional response to menarche. But of sociodemographic variables were non significant to positive and negative emotional response.



## 8. Recommendation

- ❖ Parents and schools, as well as, public health professionals in the Adolescent Reproductive Health be supposed to work hand in hand to create helpful school environment for maturing girls so that they could practice their education without embarrassment and fear. The health education or any education related to Adolescent Reproductive Health, sexual and reproductive maturation, need to encompass and complete the circle,” parent-student-teacher”.
- ❖ Schools be supposed to provide the class sessions based on Family Life Education and menstruation related topics incorporated in the existing subjects; girls and boys should have a better, well organized health education class delivered by trained health education instructors.
- ❖ This is the first study to explore the psychosocial factors of emotional response to menarche among adolescent high school girls in Gondar. The findings of the study overlay the way for future researcher. This can be further investigated by a longitudinal or qualitative study.

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## **10. Annex**

Annexes10.1 English version Information Sheet and Consent Form

### **Title of the Research Project**

Psychosocial correlates of emotional responses to menarche among adolescent high school girls Gondar Town, North west Ethiopia 2010/11.

**Name of Principal Investigator:** Daniel Birhanu

**Name of the Organization:** University of Gondar, College of Medicine and Health Sciences, School Of Public Health.

**Sponsor for the project:** principal investigator

### **Purpose of the Research Project**

The aim of this study is to assess of emotional responses of adolescent girls towards menarche and to identify psychosocial factors that are associated with their emotional responses.

### **Procedure**

In order to assess of emotional responses of adolescent girls towards menarche and identify psychosocial factors that influence their expectations of high school students, we invite you to take part in the study. If you are willing to participate, you need to understand and sign the consent form then you will be requested to give your response by the data collectors.

For this questionnaire based study, study subjects are all regular grade 9 students in 2010/2011 academic year, and selected by sampling technique. All the response given by participants and the result obtained will be kept confidentiality by using coding system whereby no one will have access to your response.

### **Risk and /or Discomfort**

There is no risk in participating in this research project except wasting your time (30-45 minutes).

## **Benefits**

If you are participating in this research project, there may not be direct benefit to you but your participation is likely to help us in showing the emotional response and associated psychosocial factors among high school students. This may help to design and deliver interventions for the target groups. You will not be provided any incentives or payment to take part in this project.

## **Confidentiality**

The information collected for this research project will kept confidential and information about you that will be collected by this study will be stored in a file without your name.

## **Right to Refusal or Withdraw**

You have the full right to refuse from participating in this research and withdraw from this study at any time you wish, without losing any of your right.

## **Person to contact**

If you have any question you can contact the principal investigator with the following address.

Daniel Birhanu - Mobile: +251918046637

## Study consent

- Are you willing to participate in the study? Make a tick ( ) on your choice.

Yes ☐

No ☐

**የመረጃ እና የስምምነት ወል ፎርም**

**የምርምር ፕሮጀክቱ ርዕስ:-** በጎንደር ከተማ በሚገኙ ሁለተኛ ደረጃ ተማሪዎች ላይ ለመጀመሪያ ጊዜ በልጃገረዶች ላይ በሚታይ የወር አበባ ላይ የሚከሰቱ ችግሮች እና ተዛማጅ ሁኔታዎች ጥናት ለማድረግ ነው፤ ጎንደር ከተማ፣ ሰሜን-ምዕራብ ኢትዮጵያ።

**የተመራማሪው ስም:-** ዳንኤል ብርሃኑ

**የድርጅቱ ስም:-** በጎንደር ዩኒቨርሲቲ ህክምና እና ጤና ሳይንስ ኮሌጅ የህብረተሰብ ጤና አጠባበቅ ትምህርት ክፍል።

**ወጭውን የሚሸፍነው:-** ተመራማሪው

**የጥናቱ አላማ:-** ለመጀመሪያ ጊዜ በልጃገረዶች ላይ በሚታይ የወር አበባ ላይ የሚከሰቱ ችግሮች እና ተዛማጅ ሁኔታዎች በማጥናት ለሚመለከታቸው ክፍሎች መረጃ ለመስጠት ነው።

**አተገባበር**

ለመጀመሪያ ጊዜ በልጃገረዶች ላይ በሚታይ የወር አበባ ላይ የሚከሰቱ ችግሮች እና ተዛማጅ ሁኔታዎች ዙሪያ በሚያጠና ጥናት ላይ ድርሻ እንዲኖርዎ ጋብዘንዎታል። በጥናቱ ለመሳተፍ ፈቃደኛ ከሆኑ የወል ፎርሙን ተረድተው መፈረም አለብዎት ከዚያም በመረጃ ሰብሳቢዎች መልስ እንዲሰጡ ይጠየቃሉ።

በዚህ መጠይቅ ላይ ለተመሰረተ ጥናት የጥናቱ ተሳታፊዎች የጎንደር ከተማ ሁለተኛ ደረጃ የ2003 ዓ.ም መደበኛ የዘጠነኛ ክፍል ተማሪዎች ናቸው፤ ዕርስዎም በዕጣ ነው የተመረጡት። የሚሰጡት መልስ ባጠቃላይ እና የጥናቱ ውጤት ማንም በማያገኘው መለያ ቁጥር ሚስጥራዊነቱ የተጠበቀ ይሆናል።

**ሊገጥም የሚችል ችግር ወይም አለመመቸት**

መጠነኛ ከሆነ የሰዕት ብክነት በስተቀር(30-45 ደቂቃዎች) በዚህ ጥናት በመሳተፍዎ የሚደርስብዎ ችግር የለም።

**ጥቅሞች**

በዚህ ምርምር በመሳተፍዎ በቀጥታ ሊያገኙት የሚችሉት ጥቅም ላይኖር ይችላል ነገር ግን የዕርስዎ ተሳትፎ በሁለተኛ ደረጃ ተማሪዎች ያለውን ለመጀመሪያ ጊዜ በልጃገረዶች ላይ በሚታይ የወር አበባ ላይ የሚከሰቱ ችግሮች እና ተዛማጅ ሁኔታዎች ለማየት ይረዳል ይህም የመፍትሄ ሀሳብ ለማቀድ እና ውሳኔ ለመስጠት ይጠቅማል። በዚህ ምርምር በመሳተፍዎ ምንም ማበረታችያ ወይም ክፍያ አይሰጥዎትም።

**ሚስጥራዊነት**

በዚህ ምርምር ፕሮጀክት የተሰበሰበ መረጃ ሚስጥራዊ ይሆናል። ስለ ዕርስዎ የሚሰበሰቡት መረጃዎች ስም ሳይፃፍበት በዶሴ ይከማቻል።

**ዕንቢ የማለት ወይም የማቋረጥ መብት**

በዚህ ምርምር ተሳትፎ ያለማድረግ እንዲሁም በማንኛውም ሰዐት ማንኛውንም መብትዎን ሳያጡ የማቋረጥ መብት መብት አለዎት።

**ሊያገኙቸው የሚችሉት ሰው**

ጥያቄ ካለዎት ከዚህ በታች ባለው አድራሻ ተመራማሪውን ማግኘት ይችላሉ።

ዳንኤል ብርሃኑ፡- +251918046637

**የጥናቱ ስምምነት መግለጫ**

በጥናቱ ውስጥ ለመሳተፍ ፍቃደኛ ነህ/ሽ? ምርጫህን/ሽን ከስር በተዘጋጀው ሳጥን ውስጥ የ(✓) ምልክት አድርግ/ጊ

አዎ ፈቃደኛ ነኝ

☐

ፍቃደኛ አይደለሁም

☐



### Annex 10.3 English Questionnaires

The psychosocial factors and emotional responses to menarche among adolescent high school girls Gondar town North Gondar North West Ethiopia 2010/11.

Code number \_\_\_\_\_

School code \_\_\_\_\_

Section one : Background characteristics(socio demographic)			
No	Questions and filters	Coding categories	Go to
101	In what month and year were you born?	Month ..... Year .....	
102	What is your father's educational level?	1. Can't read and write 2. Can read and write 3. Grade 1-6 4. Grade 7-12 5. Above grade 12 6. Other specify.....	
103	What is your mother's educational level?	1. Can't read and write 2. Can read and write 3. Grade 1-6 4. Grade 7-12 5. Above grade 12 6. Other specify.....	
104	Religion	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Other specify.....	
105	Ethnicity	1. Amhara 2. Tigray 3. Quemant 4. Other specify.....	
106	What is your father job status?	1. Jobless 2. Government employee 3. Merchant 4. Soldier 5. Driver 6. Private employee 7. Others (Specify).....	
107	What is your mother job status?	1. Jobless 2. Government employee 3. Merchant 4. Housewife 5. Driver 6. Private employee 7. Others(Specify).....	
108	Your family income	..... Birr	
109	How old you are, when you start menstruating?		

Section 2: Emotional experience of menarche				
201	Embarrassed	1 = not at all 3=quite	2=somewhat 4=very strong	
202	Angry	1 = not at all 3=quite	2=somewhat 4=very strong	
203	Scared	1 = not at all 3=quite	2=somewhat 4=very strong	
204	Uncomfortable	1 = not at all 3=quite	2=somewhat 4=very strong	
205	Happy	1 = not at all 3=quite	2=somewhat 4=very strong	
206	Proud	1 = not at all 3=quite	2=somewhat 4=very strong	
207	Excited	1 = not at all 3=quite	2=somewhat 4=very strong	
208	Surprised	1 = not at all 3=quite	2=somewhat 4=very strong	
209	Sick	1 = not at all 3=quite	2=somewhat 4=very strong	
210	Worried	1 = not at all 3=quite	2=somewhat 4=very strong	
211	More grown-up	1 = not at all 3=quite	2=somewhat 4=very strong	
212	Not knowing what to do	1 = not at all 3=quite	2=somewhat 4=very strong	
Section 3. Menstrual attitude Questionnaires				
301	Weight gain	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe		
302	Insomnia	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe		
303	Crying	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe		
304	Lowered school performance	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe		
305	Muscle stiffness	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe		
306	Forgetfulness	1 = no experience 2= experience but not severe 3 = a little severe		

		4 = severe, 5 = very severe	
307	Confusion	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
308	Headache	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
309	Rash, acne, skin allergies	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
310	Loneliness	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
311	Stay at home	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
312	Abdominal cramps	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
313	Dizziness, faintness	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
314	Avoid social activities	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
315	Anxiety	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
316	Backache	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
317	Lowered judgment	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
318	Fatigue	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
319	Nausea, vomiting	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
320	Restlessness	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	

321	Difficulty concentrating	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
322	Breast tenderness or pain	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
323	Accident prone	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
324	General aches and pains	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
325	Mood swings	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
326	Depression; feel upset	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
327	Numbness	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
328	Fuzzy vision, blind spots	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
329	Hypersomnia (always sleepy, feeling of not having enough sleep)	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
330	Impulsive	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
331	Angry, bad tempered	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
332	Impatient	1 = no experience 2= experience but not severe 3 = a little severe 4 = severe, 5 = very severe	
Section 4. other Measures related to menarche			
401	At this point in your life when you look back at those early days of onset, do you think you were prepared enough?	<ul style="list-style-type: none"> <li>❖ Not at all</li> <li>❖ Not well prepared</li> <li>❖ Prepared well</li> <li>❖ I don't remember</li> </ul>	

402	From whom, or where from, would you prefer to have received more information on menstrual matter? (more than one answer is possible)	1.School teacher 2.Mother 3. Father 4.sister 5.brother 9. Other family member.....	6.Friends 7.Doctors 8. Books/magazine	
403	Whom you will tell, when you experience the onset of their first menstruation.	1. Mother 2. Father 3. Sister 4. Brother	5.Friends 6.doctors 7.Other, specify	

Thank you for your kind cooperation//

# Annex 10.4 Amharic version questionnaires

ለመጀመሪያ ጊዜ በልጃገረደጆች ላይ በሚታይ የወር አበባ ላይ የሚከሰቱ ችግሮች እና ተዛማጅ ሁኔታዎች ለጥናት የተዘጋጀ መጠየቅ

ኮድ ቁጥር.....

የትምህርት ቤት ኮድ.....

ክፍል 1 አጠቃላይ የግለሰብ መረጃዎች			
ተ. ቁጥር	መጠይቅ	መልስ	ኮድ
101	በቅርቡ ልደትሽን ስታከብሪ ስንት አመትሽ ነበር?	ዕድሜ በአመት.....	
102	የወላጅ አባትሽ የትምህርት ደረጃ ስንት ነው?	1. አልተማረም 2. ማንበብና መጻፍ ብቻ 3. ከ1-6ኛ ክፍል 4. ከ7-12ኛ ክፍል 5. ከ12ኛ ክፍል በላይ 6. ሌላ ካለ ይግለጹ.....	
103	የወላጅ እናትሽ የትምህርት ደረጃ ስንት ነው?	1. አልተማረችም 2. ማንበብና መጻፍ ብቻ 3. ከ1-6ኛ ክፍል 4. ከ7-12ኛ ክፍል 5. ከ12ኛ ክፍል በላይ 6. ሌላ ካለ ይግለጹ.....	
104	ኃይማኖትሽ ምንድን ነው?	1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ካቶሊክ 5. ሌላ ካለ ይግለጹ.....	
105	ከየትኛው ብሄረሰብ ነዎት?	1. አማራ 2. ትግሬ 3. ቅማንት 4. ሌላ ካለ ይግለጹ.....	
106	የወላጅ አባትሽ የስራ ሁኔታ	1. ስራ አጥ 2. የመንግስት ሰራተኛ 3. ነጋዴ 4. ወታደር 5. ሾፌር 6. የግል ድርጅት ተቀጣሪ 7. ሌላ ካለ ይግለጹ.....	
107	የወላጅ እናትሽ የስራ ሁኔታ	1. ስራ አጥ 2. የመንግስት ሰራተኛ 3. ነጋዴ 4. የቤት እመቤት 5. ሾፌር 6. የግል ድርጅት ተቀጣሪ 7. ሌላ ካለ ይግለጹ.....	

108	የቤተሰብ የወር የገቢ መጠን	..... ብር	
109	የመጀመሪያ የወር አበባ ያየሽው በስንት አመትሽ ነበር?	.....	
<b>ክፍል 2 የወር አበባ ባየሽበት ወቅት የተመለከትሽው ስሜትሽ ምን ይመስል ነበረ?</b>			
201	የእፍረት ስሜት መስማት	1. በፍፁም 2. በጥቂቱ	3. በጣም 4. በከፍተኛ
202	የመቆጣት	1. በፍፁም 2. በጥቂቱ	3. በጣም 4. በከፍተኛ
203	ፍርሃት	1. በፍፁም 2. በጥቂቱ	3. በጣም 4. በከፍተኛ
204	ምቅት ማጣት(አለመመቸት)	1. በፍፁም 2. በጥቂቱ	3. በጣም 4. በከፍተኛ
205	ደስታ	1. በፍፁም 2. በጥቂቱ	3. በጣም 4. በከፍተኛ
206	ኩራት	1. በፍፁም 2. በጥቂቱ	3. በጣም 4. በከፍተኛ
207	መቅበጥበጥ	1. በፍፁም 2. በጥቂቱ	3. በጣም 4. በከፍተኛ
208	መደነቅ	1. በፍፁም 2. በጥቂቱ	3. በጣም 4. በከፍተኛ
209	መታመም	1. በፍፁም 2. በጥቂቱ	3. በጣም 4. በከፍተኛ
210	መጨነቅ	1. በፍፁም 2. በጥቂቱ	3. በጣም 4. በከፍተኛ
211	የማደግ ስሜት	1. በፍፁም 2. በጥቂቱ	3. በጣም 4. በከፍተኛ
212	ምን እንደምሰራ አለማወቅ	1. በፍፁም 2. በጥቂቱ	3. በጣም 4. በከፍተኛ
<b>ክፍል 3 የወር አበባ በምታይበት ወቅት ያስተዋልሻቸው ሁኔታዎች ምን ይመስሉ ነበር?</b>			
301	ክብደት መጨመር	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
302	እንቅልፍ ማጣት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
303	ማልቀስ	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
304	የትምህርት ውጤት መቀነስ	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም	

		3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
305	የጡንቻ ህመም(መድረቅ)	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
306	መርሳት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
307	ግራ መጋባት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
308	ራስ ምታት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
309	ማሳከክ፡ ቆዳና ፊት ላይ የሚወጣ ቁስል	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
310	ብቸኝነት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
311	ቤት ላለመውጣት መፈለግ	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
312	የሆድ ህመም	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
313	ማዞር እና መንገዳገድ	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል	



		5. በጣም አጋጥሞኛል	
314	ከማህበራዊ ተግባር ራስን ማግለል	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
315	ስጋት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
316	የጀርባ ሀመም	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
317	ራስን ዝቅ የማድረግ ስሜት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
318	ድካም	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
319	ማቅለሽሽ እና ትውከት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
320	እረፍት ማጣት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
321	የመረጋጋት ችግር	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
322	የጡት እብጠት ወይም ሀመም	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
323	ለአደጋ መጋለጥ	1. አላጋጠመኝም	

		2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
324	አጠቃላይ የህመም ስሜት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
325	የተዛባ ስሜት መኖር	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
326	የመናደድ ስሜትና የማዘን ስሜት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
327	የደካሚ ስሜት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
328	ብሻ ያለ እይታ	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
329	እንቅልፍ መብዛት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
330	ችኩል መሆን	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
331	ቁጡ ነጭናጫ መሆን	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል 4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
332	ትዕግስት ማጣት	1. አላጋጠመኝም 2. አጋጥሞኛል ግን የከፋ አይደለም 3. ትንሽ አጋጥሞኛል	

		4. አጋጥሞኛል 5. በጣም አጋጥሞኛል	
<b>ክፍል 4 የወር አበባ በምታይበት ወቅት የነበሩ ተጨማሪ ነገሮች</b>			
401	ለመጀመሪያ ጊዜ የወር አበባ ስታይ ተዘጋጅተሽ ነበር?	<ul style="list-style-type: none"> <li>- በፍፁም</li> <li>- በደንብ አልተዘጋጀሁም</li> <li>- በደንብ ተዘጋጅቻለሁ</li> <li>- አላስታውስም</li> </ul>	
402	በወር አበባ ዙሪያ መረጃ ቢያስፈልግ ከማን መስማት ወይም የት ቢሆን ትመርጫለሽ? (ከአንድ መልስ በላይ መምረጥ ትችያለሽ)	<ol style="list-style-type: none"> <li>1. ከትምህርት ቤት መምህራን</li> <li>2. እናት</li> <li>3. አባት</li> <li>4. እህት</li> <li>5. ወንድም</li> <li>6. <sup>1</sup>ደኛ</li> <li>7. የህክምና ባለሙያ</li> <li>8. መፅሃፍና መፅሄት</li> <li>9. ሌላ ካለ ይግለፁ.....</li> </ol>	
403	ለመጀመሪያ ጊዜ የወር አበባ ስታይ ለማን ተናገርሽ?	<ol style="list-style-type: none"> <li>1. እናት</li> <li>2. አባት</li> <li>3. እህት</li> <li>4. ወንድም</li> <li>5. <sup>1</sup>ደኛ</li> <li>6. የህክምና ባለሙያ</li> <li>7. ሌላ ካለ ይግለፁ.....</li> </ol>	

ስለትብብርሽ አመሰግናለሁ!!

## DECLARATION

I, the undersigned, senior **MPH** student declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master of Public Health.

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

**Place of submission:** School of Public Health, College of Medicine and Health Sciences, University of Gondar.

**Date of Submission:** \_\_\_\_\_

This thesis work has been submitted for examination with my/our approval as University advisor(s).

## Advisors

**Name**

**signature**

1. Mr. Telake Azale(MPH)

\_\_\_\_\_

2. Mr. Walelegn Worku(MPH)

\_\_\_\_\_